

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Central Montana Resources, LLC
Well Name/Number: Snowmane No. 1
Location: NE NE Section 8 T13N R29E
County: Petroleum, **MT;** **Field (or Wildcat)** W/C

Air Quality

(possible concerns)

Long drilling time: No, 20 to 25 days drilling time.

Unusually deep drilling (high horsepower rig): No, a double drilling rig to drill a vertical pilot hole to 4500' and plug back and kickoff a single lateral horizontal (Heath Formation) 8122' MD/4125' TVD.

Possible H2S gas production: Slight.

In/near Class I air quality area: No class I air quality area.

Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using double rig to drill to a vertical pilot hole to 4500' and plug back and kickoff a single lateral horizontal (Heath Formation) 8122' MD/4125' TVD.

Water Quality

(possible concerns)

Salt/oil based mud: No, surface hole will be drilled with freshwater/air mist. Mainhole will be drilled with freshwater and freshwater drilling mud.

High water table: No high water table in the area of review.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Anderson Creek, about 1/8 of a mile to the southwest from this location.

Water well contamination: No, no water wells within 1 mile and further in any direction from this location. This well will set 9 5/8" surface casing to 600' and cement to surface. Well will be drill with freshwater mud.

Porous/permeable soils: No, silty sandy bentonitic soils.

Class I stream drainage: No

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 600' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud system to be used on surface hole. Freshwater mud system to be used from surface to TD. Freshwater drilled cuttings and mud solids will be buried in the lined pit. Lined pit will be backfilled when dry. No concerns.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No stream crossings require.

High erosion potential: No, small cut, up to 9.1' and small fill, up to 9.5', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, 300'X250' location size required.

Damage to improvements: Slight, surface use appears to be a cultivated field.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be from existing county road and ranch trail. Short road to be built from trail access into location, about 3696'. Freshwater drilled cuttings and mud solids will be buried in the lined pit. Lined pit will be backfilled when dry. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residence, none within 1 mile in any direction from this location.

Possibility of H₂S: Slight.

Size of rig/length of drilling time: Small drilling rig/short 20 to 25 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H₂S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Operational BOP and adequate surface casing should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species identified are the Pallid Sturgeon and the Black Footed Ferret. Species of concern, Greater Sage Grouse.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private cultivated surface lands. Contact Mr. Jay Newell, biologist for Fish Wildlife and Parks, Roundup, Montana, had no issues with the drilling of this well in Petroleum County, Montana. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: Private cultivated surface lands. No concerns.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Well is a wildcat, until production is established no social or economic impact can be assessed.

Remarks or Special Concerns for this site

Well is a wildcat vertical pilot hole to 4500' and plug back and kickoff a single lateral horizontal (Heath Formation) 8122' MD/4125' TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki

(title:) Chief Field Inspector

Date: June 22, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology GWIC website

(Name and Agency)

Petroleum County water wells

(subject discussed)

June 20, 2010

(date)

Mr. Jay Newell, biologist Montana Fish Wildlife and Parks

(Name and Agency)

Wildlife issues Section 8 T13N R29E, Petroleum County Montana

(subject discussed)

June 21, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Petroleum County

(subject discussed)

June 20, 2010

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____